

A Revision of the Family Nippobodidae (Acari: Oribatida)

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青木 淳一¹⁾: ダイコクダニ科に属するササラダニ類のまとめ

Abstract: All the members, seven species in total, of the family Nippobodidae are listed. A new species, *Nippobodes tokaraensis*, is described from Tokara Islands. *N. brevisetiger yuwanensis* AOKI is recognized as a good species and *Leobodes latus* AOKI is transferred to the genus *Nippobodes*.

Since the family Nippobodidae was established by the author in 1961 based on the single species, *Nippobodes insolitus* AOKI, 1959, one genus and four species have hitherto been added to the members of the family.

In the present paper a new species, *Nippobodes tokaraensis*, is described from Tokara Islands, South Japan. Among the known members *Nippobodes brevisetiger yuwanensis* AOKI, 1984, from Amami-Oshima Is. is dealt with here as a good species, and *Leobodes latus* AOKI, 1970, from Tsushima Is. is transferred to the genus *Nippobodes*. Thus, the members of the family Nippobodidae are now as listed below:

Genus *Nippobodes* AOKI, 1959

Nippobodes insolitus AOKI, 1959

(Fig. 1)

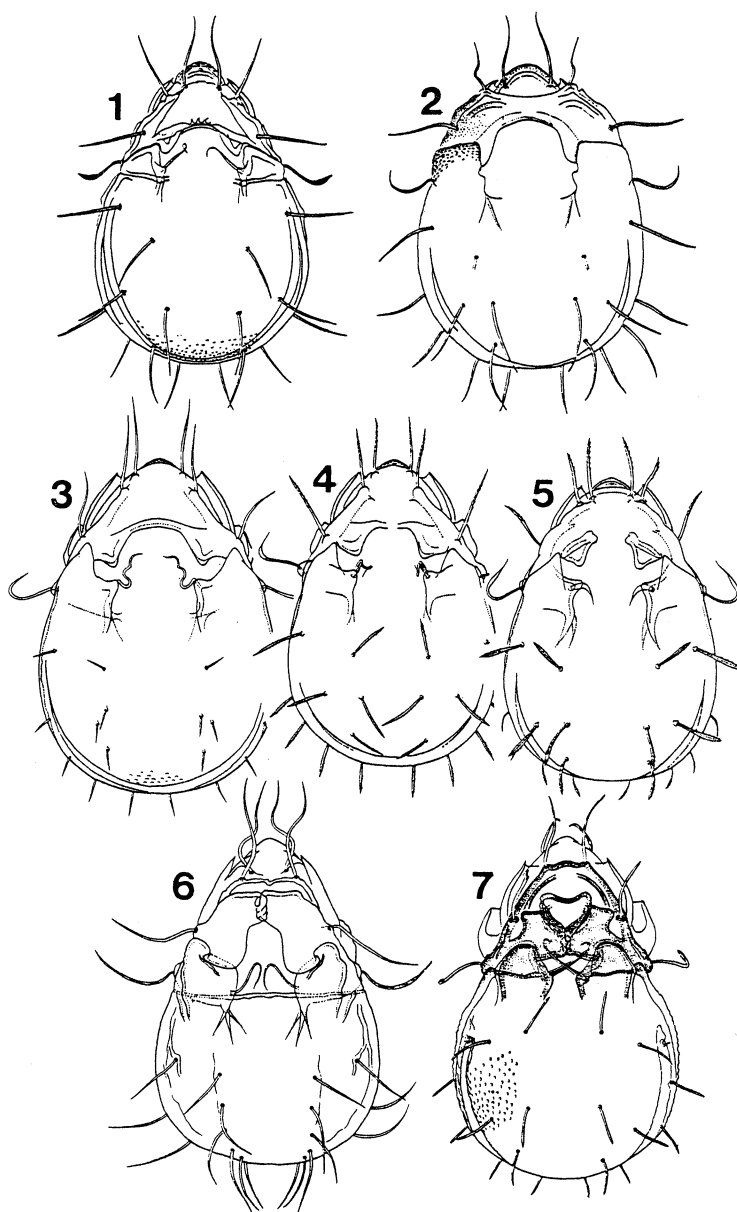
Nippobodes insolitus AOKI, 1959, p. 13, fig. 10. [Distribution] Japan (Kagawa and Wakayama)

Nippobodes brevisetiger AOKI, 1981

(Fig. 3)

Nippobodes brevisetiger AOKI, 1981, p. 29, figs. 1-7. [Distribution] Japan (Tanegashima Is. and Yakushima Is.)

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Figs. 1-7 Dorsal aspects of the seven species of the family Nippobodidae.
1: *Nippobodes insolitus* AOKI. 2: *Nippobodes latus* (AOKI). 3: *Nippobodes brevisetiger* AOKI. 4: *Nippobodes yuwanensis* AOKI. 5: *Nippobodes tokaraensis* sp. nov. 6: *Leobodes mirabilis* AOKI. 7: *Leobodes anulatus* AOKI. (Figs. 4 and 5 are original, the remaining figures are from the previous papers by the author)

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Nippobodes yuwanensis AOKI, 1984, **stat. nov.**

(Figs. 4, 8-12)

Nippobodes brevisetiger yuwanensis AOKI, 1984, p. 138, Fig. 10. [Distribution] Japan (Amami-Ohshima Is.)

Nippobodes tokaraensis sp. nov.

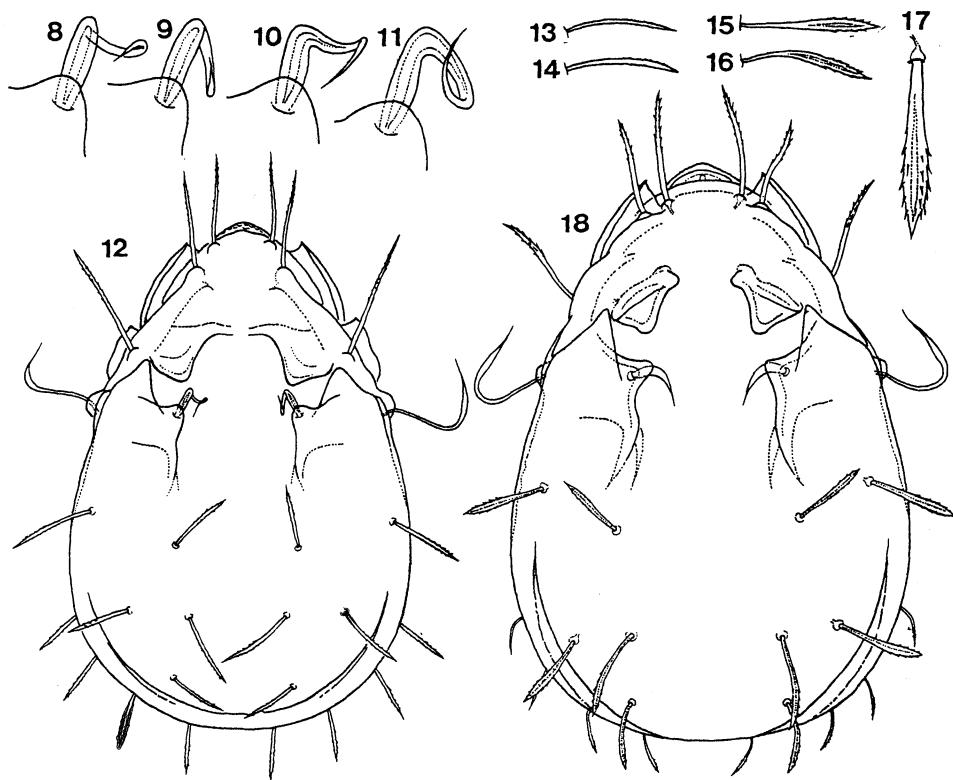
(Figs. 5, 13-18)

[Distribution] Japan (Tokara Islands)

Nippobodes latus (AOKI, 1970), **comb. nov.**

(Fig. 2)

Leobodes latus AOKI, 1970, p. 431, figs. 84-87. [Distribution] Japan (Tsushima Is.)



Figs. 8-12 *Nippobodes yuwanensis* AOKI. 8-11: Setae *ta* on notogastral condyles (left side). 12: Dorsal aspect.

Figs. 13-18 *Nippobodes tokaraensis* sp. nov. 13: Seta *r*₃. 14: Seta *p*₃. 15: Seta *p*₁. 16: Seta *p*₂. 17: Seta *r*₂. 18: Dorsal aspect.

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Genus *Leobodes* AOKI, 1965

Leobodes mirabilis AOKI, 1965

(Fig. 6)

Leobodes mirabilis AOKI, 1959, p. 167, figs. 58-60. [Distribution] Thailand (Mae Ngon Luang)

Leobodes anulatus AOKI, 1965

(Fig. 5)

Leobodes anulatus AOKI, 1965, p. 296, figs. 15-18. [Distribution] Himalaya (Tumba)

Key to the Genera and Species of the Family Nippobodidae

1. Prodorsum with a pair of large lumps connected medially with each other by a hinge.....Genus *Leobodes* AOKI.... 6
- Prodorsum without a pair of large lumps connected by a hinge..... Genus *Nippobodes* AOKI.... 2
2. Prodorsal condyles triangular; notogastral condyles also triangular 3
- Prodorsal condyles absent; notogastral condyles rectangular. $810 \times 580 \mu\text{m}$ *N. latus* (AOKI)
3. Notogastral setae smooth, never broadened distally 4
- Notogastral setae barbed, weakly broadened in distal portion 5
4. Notogastral setae rather long (RLN: 15-22); seta *ta* on notogastral condyle whip-like. $630-720 \times 470-490 \mu\text{m}$ *N. insolitus* AOKI
- Notogastral setae short (RLN: 7-9); seta *ta* twisted tree times. $555-625 \times 385-460 \mu\text{m}$ *N. brevisetiger* AOKI

Table 1 RLN* (relative length to notogaster) of notogastral setae in the three closely related species of the genus *Nippobodes*.

	<i>N. brevisetiger</i>	<i>N. yuwanensis</i>				<i>N. tokaraensis</i>	
<i>te</i>	6.7	18.1	20.8	19.4	17.3	12.1	10.2
<i>ti</i>	—	14.2	18.2	13.6	—	10.6	10.2
<i>ms</i>	6.3	16.9	20.8	14.6	—	12.1	13.9
<i>r₃</i>	7.3	10.8	12.7	10.7	11.5	6.3	7.8
<i>r₂</i>	6.7	12.7	16.5	14.1	—	11.8	11.5
<i>r₁</i>	6.3	13.1	15.3	—	—	12.1	12.7
<i>p₃</i>	7.3	11.2	13.1	11.2	12.3	6.9	9.0
<i>p₂</i>	7.3	12.3	13.1	10.9	11.9	8.1	—
<i>p₁</i>	7.8	10.8	13.1	10.4	11.2	8.5	7.0

* RLN of notogastral seta = $\frac{\text{length of notogastral seta}}{\text{length of notogaster}} \times 100$

5. Prodorsal condyles clearly separated from each other; seta *ta* twisted two times; the remaining notogastral setae 10-21 in RLN. 515-655×340-438 μm *N. yuwanensis* AOKI
- Prodorsal condyles separated, but each with a median extension; seta *ta* simple, not twisted; the remaining notogastral setae 6-14 in RLN. 610-615×420-425 μm *N. tokaraensis* sp. nov.
6. Prodorsal lumps forming anteriorly a large, heart-shaped ring; sensillus with a fusiform head apically; notogastral setae short and blunt at tip. 663-745×408-485 μm *L. anulatus* AOKI
- Prodorsal lumps not forming a large ring; sensillus only slightly swollen in the middle portion; notogastral setae long and pointed at tip. 540-582×376-412 μm *L. mirabilis* AOKI

Description of the New Species

Nippobodes tokaraensis sp. nov.

(Figs. 5, 13-18)

Measurement. 610-615×420-425 μm .

Prodorsum. Rostral, lamellar and interlamellar setae thick, distinctly barbed in the apical half, each situated on a small apophysis, nearly equal in length, their RLN (relative length to notogaster) being about 17-20. Bothridium with an upper scale of rounded trapezoid shape. Sensillus weakly swollen in distal portion and then attenuating into a sharply pointed tip. A pair of prodorsal condyles large and triangular, being clearly separated from each other.

Notogaster. Notogastral condyle large, with a lateral and a median triangular projections, the latter bearing a seta *ta*, simple and not curved (not twisted). Notogastral setae *te*, *ti*, *ms*, *r*₁ and *r*₂ (Fig. 17) thick and barbed (RLN: 10.2-13.9), *ms* being the longest among them; setae *p*₁ and *p*₂ (Figs. 5-6) similar in shape to the setae mentioned above, but far thinner and shorter (RLN: 8.1-8.5); seta *p*₃ (Fig. 14) thinner than *p*₁ or *p*₂; seta *r*₃ (Fig. 13) the thinnest, the barbation on it being hardly visible.

Anogenital region. Rectangular genital plates covering oval genital opening. Anogenital chaetotaxy: 4-1-2-3. Adanal seta *ad*₁ almost as long as the width of anal plate. Anal opening surrounded by a dark-colored ring of thickening.

Type series. Holotype (NSMT-Ac 10219): Sokonashi-numa, Nakanoshima Is. of the Islands of Tokara, 15-III-1987, J. AOKI NKS-6.—Paratopotype (NSMT-Ac 10220): At the foot of Mt. Mitake, Nakanoshima Is. of the Islands of Tokara, 15-III-1987, J. AOKI NKS-5. The type series is deposited in the collection of National Science Museum (Nat. Hist.), Tokyo.

摘 要

現在のところ日本、タイおよびヒマラヤのみから知られている特異なササラダニであるダイコクダニ科の種を整理し、ここに記載した1新種を含め2属7種を認め、検索表を作成した。それらは日本産の *Nippobodes insolitus* AOKI (ダイコクダニ), *N. brevisetiger* AOKI (オオスミダイコクダニ), *N. yuwanensis* AOKI (ユワンダイコクダニ, = *N. brevisetiger yuwanensis* AOKI), *N. tokaraensis* sp. nov. (トカラダイコクダニ, 新称), *N. latus* (AOKI), comb. nov. (ダルマダニ, = *Leobodes latus* AOKI), タイ国産の *Leobodes mirabilis* AOKI, ヒマラヤ産の *L. anulatus* AOKI である。

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